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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/016,815	12/13/2001	Klaus Schubert	K 188	9024

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KLAUS J. BACH & ASSOCIATES
PATENTS AND TRADEMARKS
4407 TWIN OAKS DRIVE
MURRYSVILLE, PA 15668

EXAMINER

SORKIN, DAVID L

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 09/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/016,815

Applicant(s)

SCHUBERT ET AL.

Examiner

David L. Sorkin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-8 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: _____

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." While a proper IDS has been filed, additional references, such as DE 44 16 343 C2 and DE 195 40 292 C1, are mentioned in the instant specification. Unless these references have been cited by the examiner on form PTO-892, they have not been considered.

Drawings

2. The drawings are objected to under 37 CFR 1.84(h)(5) because Figure 3 shows modified forms of construction in the same view. 37 CFR 1.84(h)(5) states "Modified forms of construction must be shown in separate views". The three embodiments of Fig. 3 should be separately labeled as, for example, Fig. 3a, Fig. 3b and Fig. 3c. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The specification must be amended in accordance with the drawing changes required above, to refer to the three embodiments now shown in Fig. 3 as separate views, such as Fig. 3a, Fig. 3b and Fig. 3c.

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4. References to specific claim numbers in the specification, other than in the claims, should be avoided as the claims may be amended or renumbered. Therefore, the reference to "claim 1" in line 30 of page 6 should be rephrased.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 3 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention:

7. Regarding claim 3, the phrase "or an equally effective structure" is considered to render the claim indefinite. One skilled in the art would not know to a reasonable degree what scope of structures are to be considered "equally effective" with respect to the listed items.

8. Claim 6 is rendered indefinite by the parenthetical notation "(Rapid prototyping)". It is unclear if this parenthetical notation is a claim limitation and it is generally unclear how this parenthetical notation relates to the remainder of the claim.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

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only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-3 and 5-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Christel et al. (US 6,368,871). Note: though it is improper to quantitatively interpret prior art drawings if they are not indicated as being to scale (see *Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 55 USPQ2d (Fed. Cir. 2000)), Christel ('871) includes photographs 1a-1h which are indicated to be to scale. A scale in units of microns is provided in each photograph. Therefore, it is proper for these photographs to be relied upon quantitatively. Figs. 2-6 are not indicated as being to scale and cannot properly be relied upon quantitatively. Regarding claim 1, as seen in Fig. 1h Christel ('871) discloses a static micromixer with at least one mixing chamber (in Fig. 1h the straight channel which extends to the bottom of the photograph) and an upstream guide component (structure defining the tapered portions of the other three channels in Fig. 1h) for the separate admission of two different fluids to be mixed or to be dispersed, said component including slot-like channels (the tapered portions of the two channels which extend from the left and right sides of the photograph 1h) extending at an angle with respect to the longitudinal axis of the micromixer, said channels intersecting each other without communicating and leading to the mixing chamber, where they form a common exit cross section, with webs (the two thin walls dividing the left and right channels from the upper, central, ice-cream cone shaped channel in the photograph 1h) disposed between adjacent outlet channels to the exit side the height of the webs being less than 500 microns (see scale of photograph) said channels in the guide component having, for at least a part of the fluid flows to be mixed, having a cross-section which

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decreases from the channel inlet sides continuously toward and up to the channel exit sides (see Fig. 1h). Regarding claim 2, said slot-like channels are provided over at least part of their length with webs (the two thin walls dividing the left and right channels from the upper, central, ice-cream cone shaped channel in the photograph 1h) oriented in flow direction. Regarding claim 3, in the direction of the flow, behind the outlet opening of the guide component, a grid, net or an equally effective structure is provided which divides flow (Christel discloses that "a series of islands" or "microcolumns" may divide flow after convergence of the channels, see col. 2, lines 42 and 43, Figs. 1f, 1g, and 5; also additional channels may be provided to divide flow, see col. 13, lines 12-15) Regarding claim 5, "[t]he patentability of a product does not depend on its method of production" *In re Thorpe* 227 USPQ 964, 966 (Fed. Cir. 1985). The method of making limitations of claim 5 have been considered for any structure they imply. Specifically, claim 5 is considered to require that the guide component is metal. Christel ('871) discloses the guide component being metal (see col. 6, lines 9-12). Regarding claim 6, "[t]he patentability of a product does not depend on its method of production" *In re Thorpe* supra. The method of making limitations of claim 6 have been considered for any structure they imply. Specifically, claim 6 is considered to require that the guide component is plastic. Christel ('871) discloses the guide component being plastic (see col. 6, lines 9-12; col. 7, lines 18-20). Regarding claim 7, "[t]he patentability of a product does not depend on its method of production" *In re Thorpe* supra. The method of making limitations of claim 7 have been considered for any structure they imply. Specifically, claim 7 is considered to require that the guide component is ceramic.

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Christel ('871) discloses the guide component being ceramic (see col. 6, lines 9-12; col. 7, lines 18-20). Regarding claim 8, the height of the webs is less than 150 microns (see scale of photograph 1h).

Allowable Subject Matter

11. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Among other limitations, dependent claim 4 requires "auxiliary cuts" cuts (10a,10b) interconnecting channels and plates (11,12) covering the auxiliary cuts on the entrance and exit sides of the channels. These limitations are not disclosed by Christel ('871), which is considered to be the closest prior art, nor are these limitations fairly taught by the prior art, in combination with the remaining limitations of claim 4.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Sorkin whose telephone number is 703-308-1121. The examiner can normally be reached on 8:00 -5:30 Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 703-308-0457. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

A handwritten signature in cursive script, appearing to read "David Sorkin".

David Sorkin